Claims

1. A method of simulating a tire on snow comprising

making a model of the tire made up of numerically analyzable elements,

making a model of the snow made up of numerically analyzable elements being capable of presenting its volume change caused by compression and being capable of maintaining a volume change after the compression is removed,

repeating: setting of conditions for rolling the tire model and contacting the tire model with the snow model; computing of deformation of the tire model; and computing of deformation of the snow model, at minute time intervals to obtain at least one of the following data: a force produced on the tire model in the back and forth direction; and mass density, pressure, stress, speed and contact force of the snow model, and

outputting said at least one of the data.

2. The method according to claim 1, wherein

the method further comprises

defining the tire model as being rotatable around its rotational axis and being movable only in the vertical direction in relation to a coordinate system, and

defining the snow model as being immobilize in relation to said coordinate system, and

said conditions including a torque applied to the tire.

3. The method according to claim 1, wherein

the method further comprises

defining the snow model as being immobilize in relation to

a coordinate system,

defining the tire model as being rotatable around its rotational axis, and

defining a model of an elastic body of which one end is fixed in relation to the coordinate system and the other end is connected to the rotational axis, and

said conditions including a torque applied to the rotational axis of the tire.

4. The method according to claim 1, 2 or 3, wherein

the tire model is of a halved tire on one side of the tire equator.

5. The method according to claim 1, 2, 3 or 4, wherein

said outputting includes outputting one of the data by visualizing the distribution thereof in gray scale or changing color.

6. The method according to claim 1, 2, 3 or 4, wherein

said outputting includes outputting one of the data relating to the snow model by visualizing the distribution thereof in gray scale or changing color and overlapping a view of the snow model.

6. The method according to claim 1, 2, 3 or 4, which further comprises

visualizing and outputting specific elements which have data included in a predetermined specific range.